

A HARMONIC-SERIES FILTER

ABSTRACT OF THE DISCLOSURE

In a filtering system, a first input receives a  
signal contaminated with noise. A second input receives  
a noise reference signal. Each notch filter in a set of  
M notch filters is responsive to a corresponding tuning  
coefficient so as to attenuate a corresponding noise  
frequency in the signal contaminated with noise. A  
tuning parameter generator responds to the noise  
reference signal by generating a tuning parameter  
corresponding to a fundamental frequency of the noise and  
tracks that fundamental frequency. A filter coefficient  
generator responds to the tuning parameter by providing  
each of the M notch filters with the corresponding tuning  
coefficient. A gain normalizer adjusts the overall gain  
of the M notch filters.